with suspected MS without known optic tract disease have abnormal visual evoked potentials, and about half of patients with suspected MS without known posterior column disease have delayed somatosensory evoked potentials. Consequently, a panel of such tests is very useful in determining if a patient who presents with his first single neurological deficit and really has lesions in multiple locations is more likely to have multiple sclerosis.

Even higher rates of delayed evoked potentials are seen in patients with definite MS or those who have had signs or symptoms of abnormalities in the respective sensory modalities. In some groups, abnormal results are found in 95 percent of patients.

More recently it has become evident that other pathologic conditions besides demyelination can cause abnormal evoked potentials. Certain types of compression (such as cerebellopontine angle or brain stem tumors) or degenerative disease (Parkinson disease, for example) cause similar abnormalities. Test results, therefore, should be interpreted as showing locations of disease rather than as pathognomonic of demyelination.

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Microsurgical Treatment for the Ischemic Cerebral Vascular Accident

TRANSIENT ISCHEMIC ATTACKS (TIA's) of the brain cause reversible neurological symptoms and signs, such as unilateral amaurosis, hemiparesis and dysphasia. Although these ischemic attacks may be due to cardiovascular disease, they are most commonly caused by stenosis of some portion of the internal carotid artery. In general, TIA's herald the coming of a major irreversible stroke, one of the leading causes of death and disability in the United States. Consequently, it is essential to diagnose TIA's accurately in the early phases in order to institute appropriate medical or surgical treatment (or both). Ultimately, this often requires contrast cerebral angiography of the cervical and intracranial carotid and vertebral basilar artery systems to determine areas of stenosis or occlusion. Fortunately, the potential risk of serious bodily injury by transfemoral angiography under local anesthesia is only about 0.5 percent.

If severe stenosis of the cervical carotid artery is discovered, especially with atherosclerotic plaques from which platelet emboli may be arising and causing TIA's, then a carotid endarterectomy-type operation is indicated. However, if there has been a total occlusion of the cervical internal carotid artery, or if there is stenosis of the cavernous sinus carotid artery or the middle cerebral artery, then a microsurgical revascularization operation of the brain should be considered.

The most common and acceptable operation is a microvascular anastomosis between the superficial temporal artery and the middle cerebral artery (STA-MCA) originated by two neurosurgeons, Donaghy and Yasargil, in the late 1960's and used clinically since 1970. In the past nine years a few thousand of these operations have been successfully carried out. Neurosurgeons experienced with this technique have achieved a patency rate above 90 percent. As the weeks and months pass after the operation, the STA-MCA anastomosis enlarges, producing increased blood flow to the ischemic cerebral hemisphere, usually eliminating the TIA's and substantially reducing the risk of stroke. Thus, lesions producing TIA's considered previously to be inoperable or inaccessible can be bypassed by a STA-MCA microvascular anastomosis procedure.

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Valproate: Newest Anticonvulsant

IN 1977 SODIUM VALPROATE (valproic acid, dipropylacetic acid [DPA], Depakene) burst upon the American medical scene amid much publicity. It became available in the United States the following year. A wholly new agent with a potentially different mode of action, it had been effective in Europe against a wide range of seizure types.

Among 2,031 patients treated here and abroad, many resistant to all other available drugs, the

results were impressive. Some 44 percent experienced a greater than 75 percent reduction in seizure frequency; 25 percent were slightly improved; 31 percent were considered treatment failures. DPA is most effective in generalized and least effective in focal epilepsies. It has been useful in both adults and chlidren, when administered alone and with other anticonvulsants. It should be noted that valproate is FDA-approved only for use in absence seizures.

DPA probably will become the drug of choice in myoclonic and akinetic seizures, where only clonazepam has previously been helpful. Valproate is a welcome addition to the treatment of infantile spasms, for which adrenocorticotropic hormones and ketogenic diets are therapies of desperation. Its role in any but intractable tonic-clonic seizures is limited, for the present author, by its short half-life which requires multiple daily doses, and by possible toxicity. Refractory status epilepticus may respond to administration by gavage or by rectal suppository.

DPA has been advocated for the treatment of typical and atypical absence attacks (staring spells with or without automatisms). It is undoubtedly effective in these cases, but should probably be restricted to intractable cases, pending elucidation of toxicity. For prophylaxis of febrile convulsions, DPA has the advantage of less sedation than traditional therapies, but the same reservations apply.

Valproate is rapidly and completely absorbed after oral administration. Serum levels peak at one to four hours. In animals, DPA reaches the brain within minutes. The drug is highly (90 percent to 95 percent) protein-bound, but widely distributed. It crosses the placenta and enters (though at lower concentrations than primidone) human breast milk. After omega-hydroxylation and glucuronide conjugation by the liver, the drug is mostly excreted in the urine. Hepatic dysfunction is a relative contraindication to its use. Plasma half-life is 8 to 15 hours: less in children and in patients receiving phenytoin, phenobarbital, primidone, carbamazepine or ethosuximide. American investigators have used up to 50 mg per kg of body weight in adults. Standard adult schedules start with 250 mg twice a day, increasing at three to seven day intervals until control, toxicity or a maximum dose of 2,400 to 2,600 mg is achieved. Use of other anticonvulsants is monitored but maintained; maximum benefits from DPA may be deferred two or more weeks. The mechanism of action is unknown.

In summary, valproate is a major addition to the anticonvulsant armamentarium. Alone and with other drugs, it will find its place as experience with its use and toxicity grows.

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Meralgia Paresthetica

THE SYNDROME of numbness, tingling, burning or pain in the anterolateral thigh was first described in 1885 and later named meralgia paresthetica (*meros,* thigh; *algos,* pain). This mononeuropathy of the lateral femoral cutaneous nerve is a rare cause of severe pain; however, the paresthesias associated with this entity are more common than previously recognized and the syndrome is frequently misdiagnosed.

Typically, meralgia paresthetica is first seen in middle age and is a sporadic affliction. Nevertheless, the duration of symptoms before diagnosis may be quite variable, ranging from weeks to many years. There is a frequent association with obesity and the condition is reported to be bilateral in 8 percent to 12 percent of the cases.

It is thought that the long course and unique anatomical relationships of the lateral femoral cutaneous nerve make it particularly susceptible to mechanical forces. The nerve exits the lumbar plexus and passes beneath the psoas muscle, curving and descending to the level of the anterior superior iliac spine. It is here that the nerve angles sharply downward and passes under or through attachments of the inguinal ligament. Finally, the nerve pierces the overlying fascia and enters the anterolateral thigh.

The cause of meralgia paresthetica is occasionally identifiable. However, most cases are idiopathic. Reported antecedents of the syndrome include local trauma, pregnancy, intrapelvic disease, seat belts, braces, local tumors, disc lesions and prolonged hip extension. In a recent anatomical study, Edelson and Nathan found that in 51 percent of unselected adult autopsy cases there was a significant enlargement at the ligamentous stress point. The authors postulate that this pseudoganglion results from mechanical irritation and